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RVE-005

Ph. D. IN VOCATIONAL EDUCATION AND TRAINING (PHDVET)

Term-End Examination

June, 2023

RVE-005 : RESEARCH METHODOLOGY–II

Time : 3 Hours *Maximum Marks : 100*

Note : *Answer any* ***five*** *questions. All questions carry equal marks. Simple calculator will be allowed to students.*

1. Distinguish between the following with examples : 6+6+8

   (i) Paired and Unpaired *t*-test

   (ii) Correlation and Regression

   (iii) Mean, Median and Mode

2. A study was done on the girls attending school within the vicinity of 10 kms. From their residence and outside the vicinity of 10 kms. The results obtained are given in table below : 20

Distance	Girls attending school	Girls not attending school
Within 10 kms	51	29
Outside 10 kms	35	40

Test whether the distance is associated with attending the school by the girls at 5% level of significance. (Given : $\chi^2_{(1),0.05} = 3.841$)

3. (a) With the help of suitable example, explain the strategy for choosing the appropriate statistical test for analysing the following situations : 5×3=15

   (i) Comparing three or more frequency based groups.

   (ii) Determining strength of association.

   (iii) Comparing more than two groups with real values.

   (b) What are the important considerations that one should keep in mind while applying the Chi-square test ? 5

4. Briefly explain the following : 5×4=20

   (i) Dependent and Independent Variables

   (ii) Normal Distribution

(iii) Confidence Interval

(iv) Standard Deviation

(v) P-value

5. Describe linear and non-linear correlation among variables. A researcher wants to investigate the relationship between the Mathematics and Science marks scored by class XII students. The scores were as follows :

Science	Mathematics
56	66
75	70
45	40
71	60
62	65
64	56
58	59
80	77
76	67
61	63

Find out the extent of relationship between the scores of students on Science and Mathematics achievement and interpret the results. 20

6. (a) What are the different types of diagrams used for presentation of data/results ? Explain any *one* briefly with the help of suitable examples. 10

(b) Calculate the mean and standard deviation of the data set given as follows : 10

X	10	20	30	40	50

7. A researcher is interested in finding the knowledge about the history of India amongst the students of 3 different schools in a city. A test of history is given to the students of class 8th from the three schools. The scores obtained out of '10' are given below :

School I	School II	School III
6	6	6
6	4	5
7	6	5
5	5	6
9	6	7
5	7	8

Test the equality of average scores in history for the students of three different schools at 5% level of significance. (Given $F_{(2, 15), 0.05} = 3.68$). 20